

REMARKS

This application is amended in a manner to place it in condition for allowance at the time of the next Official Action.

Status of the Claims

Claim 1 is amended to include the features of claim 2, and claim 3 is amended to depend from claim 1.

Claim 2 is cancelled.

Claims 1, 3, 4, 6, and 8-16 remain in this application.

Claim Rejections-35 USC §103

Claims 1-4, 6 and 8-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over SAITOU et al. US 20030213728 ("SAITOU") and in view of MATSUMOTO et al. US 20030023120 ("MATSUMOTO").

Claims 12-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over SAITOU in view of MATSUMOTO, in view of COKER et al. US 6,913,688 ("COKER") and as evidenced by FLETCHER et al. ("FLETCHER").

These rejections are respectfully traversed for the reasons below.

An objective of the present invention is to reduce the diene content of a cracked naphtha fraction to a diene value of 0.3 g/100 g or less, and desulfurizing the cracked naphtha fraction by contacting the fraction with a porous desulfurization

agent. As a result, desulfurization wherein the reduction of olefins is suppressed is possible. Thus, the high sulfur sorption function can be maintained for a long period of time, and an unleaded gasoline composition with a sulfur content of 1 mass ppm or less can be produced by blending a desulfurized cracked naphtha fraction with another gasoline base materials of a sulfur content of 10 mass ppm or less (See [0020] of the publication of the present application).

SAITOU discloses cracked naphtha which is obtained by distillation of cracked naphtha (Table 4, 10 and 11), but not a desulfurization treatment or a diene-reducing step in advance as recited in claim 1.

MATSUMOTO discloses a production method of desulfurized light naphtha by hydrorefining and treatment with nickel-type sorption agent, but desulfurized naphtha of MATSUMOTO's hardly contains olefins because the olefins are hydrogenated into parafins and then desulfurized by sorption agents. Thus, the claimed invention differs from MATSUMOTO in that desulfurization is carried out while suppressing the reduction of olefin

The Official Action alleges that it would have been obvious to modify the gasoline composition of SAITOU by incorporating method and composition of MATSUMOTO.

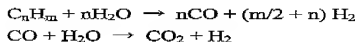
However, even if one would have incorporated the desulfurization method of MATSUMOTO, wherein the olefin content is very low, incorporated into SAITOU, wherein cracked gasoline

is simply distilled, the combination would not suggest desulfurization after the diene-reducing step wherein olefin content is maintained (the claimed invention).

Moreover, none of SAITOU, MATSUMOTO, COKER and FLETCHER disclose a diene-reducing step and a desulfurization using a porous desulfurization agent, and even one skilled in the art would not expect the above effect of the claimed invention. Thus the present invention is not a simple combination of the known arts.

The Official Action stated at page 8: "Saitou teaches in paragraph 70-73, 64 and 68-69, reforming a fuel and obtaining products of mainly hydrogen by treating with a catalyst such as nickel or copper.... and it is the examiners position that the reforming a fuel is equivalent to hydro-refining and the catalyst is equivalent to a diene-reducing catalyst".

But, these paragraphs of SAITOU actually disclose the following reactions wherein hydrogen is produced from naphtha under the presence of steam. It is more than clear that the fuel reforming by steam of SAITOU is totally different from the hydrogen-reforming in the field of the art which includes addition of hydrogen, hydrodesulfurization, isomerization, cyclization, etc.



The diene-reducing step of the claimed invention is a simple addition reaction of hydrogen.

Therefore, the combination of SAITOU, MATSUMOTO with or without COKER and FLETCHER fails to render obvious claims 1, 3, 4, 6, and 8-16, and withdrawal of the rejection is respectfully requested.

Conclusion

In view of the amendment to the claims and the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our credit card which is being paid online simultaneously herewith for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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